S3 Supporting Information: Exclusion probability.

We adapted the exclusion probability of Devaux et al. [43] derived from a previous paper [47] to take into account cultivar richness:

$$P = \sum_{v'} N\mathrm{v}' \sum_{v} N\mathrm{v} \sum_{k} g\mathrm{v,Gk} \cdot \frac{1}{2\mathrm{n}} \sum_{i} 1\mathrm{incompatibility} \cdot (\gamma_{\mathrm{v}',\mathrm{Gk,i}}, v'),$$

where $N\mathrm{v}$ is the OSR plant number assigned to a cultivar v in a given year; n is the number of loci; $g\mathrm{v,Gk}$ is the frequency of genotype G_k of cultivar v; and $\gamma\mathrm{v}', \mathrm{Gk}, \mathrm{i}$ represents the rank i of the gamete produced by the genotype G_k of cultivar v. $\sum_i 1\mathrm{incompatibility} \cdot (\gamma\mathrm{v}', \mathrm{Gk}, \mathrm{i}, v')$ is an incompatibility function between gamete g and cultivar v. This function returns 1 if g and v are incompatible, but 0 if they are compatible.